

WE CLAIM:

1. A method of performing a medical procedure, comprising:
esophageal stimulation of a vagal nerve to adjust the beating of a heart to a first condition;
performing the medical procedure on an organ;
reducing esophageal stimulation of the vagal nerve;
epicardial stimulation of the heart to adjust the beating of a heart to a second condition;
reducing epicardial stimulation of the heart;
esophageal stimulation of the nerve a subsequent time in order to re-adjust the beating of the heart to the first condition; and
continuing the medical procedure.
2. The method of claim 1 wherein the esophageal stimulation is stopped to achieve the second condition.
3. The method of claim 1 wherein the epicardial stimulation is stopped to re-adjust the beating of the heart to the first condition.
4. The method of claim 1 wherein the first condition is a stopped condition.
5. The method of claim 1 wherein the first condition is a slowed condition.
6. The method of claim 1 wherein the second condition is a beating condition.
7. The method of claim 1 further comprising:
delivering at least one drug during the medical procedure.

8. The method of claim 7 wherein the drug is selected from the group consisting of:

a beta-blocker, a cholinergic agent, a cholinesterase inhibitor, a calcium channel blocker, a sodium channel blocker, a potassium channel agent, adenosine, an adenosine receptor agonist, an adenosine deaminase inhibitor, dipyridamole, a monoamine oxidase inhibitor, digoxin, digitalis, lignocaine, a bradykinin agent, a serotonergic agonist, an antiarrhythmic agent, a cardiac glycoside, a local anesthetic, atropine, a calcium solution, an agent that promotes heart rate, an agent that promotes heart contractions, dopamine, a catecholamine, an inotrope glucagon, a hormone, forskolin, epinephrine, norepinephrine, thyroid hormone, a phosphodiesterase inhibitor, prostacyclin, prostaglandin, methylxanthine, a P₂-purinoceptor agent, an ischemia agent, and a delta opioid agonist.

9. The method of claim 8 wherein the drug is naturally occurring

10. The method of claim 8 wherein the drug is chemically synthesized.

11. The method of claim 1 wherein the medical procedure is selected from the group consisting of:

surgical procedures, non-surgical procedures, endoscopic procedures, fluoroscopic procedures, stent delivery procedures, aortic aneurysm repairs, cranial aneurysm repairs, delivery of drugs, delivery of biological agents, cardiac surgery with cardiopulmonary bypass circuits, cardiac surgery without cardiopulmonary bypass circuits, brain surgery, cardiograms, heart valve repair, heart valve replacement, MAZE procedures, transmyocardial revascularization, CABG procedures, beating heart surgery, vascular surgery, neurosurgery, electrophysiology procedures, diagnostic ablation of arrhythmias, therapeutic ablation of arrhythmias, endovascular procedures, treatment of injuries to the liver, treatment of the spleen, treatment of the heart, treatment of the lungs,

treatment of major blood vessels, non-invasive procedures, invasive procedures, and port-access procedures.

12. A device for performing a medical procedure comprising:
a processor;
an esophageal nerve stimulation electrode operatively connected to the processor and arranged on an esophageal tube; and
a cardiac stimulation electrode operatively connected to the processor, wherein the processor processes output from the nerve stimulation electrode and adjusts output from the cardiac stimulation electrode based on output from the nerve stimulation electrode.

13. The device of claim 12 further comprising:
drug delivery means for delivering at least one drug during the medical procedure.

14. The device of claim 13 wherein the drug delivery means is selected from the group consisting of:
a spray, a cream, an ointment, a medicament, a pill, a patch, a catheter, a cannula, a needle and syringe, a pump, and an iontophoretic drug delivery device.

15. The device of claim 12 wherein the cardiac stimulation electrode is selected from the group consisting of:
clip electrodes, needle electrodes, probe electrodes, pacing electrodes, epicardial electrodes, endocardial electrodes, patch electrodes, intravascular electrodes, balloon-type electrodes, basket-type electrodes, tape-type electrodes, umbrella-type electrodes, suction-type electrodes, endoesophageal electrodes, transcutaneous electrodes, intracutaneous electrodes, screw-type electrodes, barb-type electrodes, bipolar electrodes, monopolar electrodes, metal electrodes, wire electrodes and cuff electrodes.

16. The device of claim 12 further comprising:
a respiratory controller for controlling respiration.
17. The device of claim 12 wherein stimulation from the nerve stimulation electrode occurs in an inverse relationship to stimulation from the cardiac stimulation electrode.
18. The device of claim 12 further comprising:
a drug pump for delivering at least one drug, the drug pump operatively connected to the processor wherein the processor adjusts the output of the drug.
19. The device of claim 12 further comprising:
a respiratory controller for controlling respiration, the respiratory controller operatively connected to the processor wherein the processor adjusts the output of the respiratory controller.
20. A method of performing a medical procedure, comprising:
endotracheal stimulation of a vagal nerve to adjust the beating of a heart to a first condition;
performing the medical procedure on an organ;
reducing endotracheal stimulation of the vagal nerve;
esophageal stimulation of the heart to adjust the beating of a heart to a second condition;
reducing esophageal stimulation of the heart;
endotracheal stimulation of the nerve a subsequent time in order to re-adjust the beating of the heart to the first condition; and
continuing the medical procedure.

21. The method of claim 20 wherein the endotracheal stimulation is stopped to achieve the second condition.

22. The method of claim 20 wherein the esophageal stimulation is stopped to re-adjust the beating of the heart to the first condition.

23. The method of claim 20 wherein the first condition is a stopped condition.

24. The method of claim 20 wherein the first condition is a slowed condition.

25. The method of claim 20 wherein the second condition is a beating condition.

26. The method of claim 20 further comprising:
delivering at least one drug during the medical procedure.

27. The method of claim 26 wherein the drug is selected from the group consisting of:

a beta-blocker, a cholinergic agent, a cholinesterase inhibitor, a calcium channel blocker, a sodium channel blocker, a potassium channel agent, adenosine, an adenosine receptor agonist, an adenosine deaminase inhibitor, dipyridamole, a monoamine oxidase inhibitor, digoxin, digitalis, lignocaine, a bradykinin agent, a serotonergic agonist, an antiarrhythmic agent, a cardiac glycoside, a local anesthetic, atropine, a calcium solution, an agent that promotes heart rate, an agent that promotes heart contractions, dopamine, a catecholamine, an inotrope glucagon, a hormone, forskolin, epinephrine, norepinephrine, thyroid hormone, a phosphodiesterase inhibitor, prostacyclin, prostaglandin, methylxanthine, a P₂-purinoceptor agent, an ischemia agent, and a delta opioid agonist.

28. The method of claim 27 wherein the drug is naturally occurring
29. The method of claim 27 wherein the drug is chemically synthesized.
30. The method of claim 20 wherein the medical procedure is selected from the group consisting of:
 - surgical procedures, non-surgical procedures, endoscopic procedures, fluoroscopic procedures, stent delivery procedures, aortic aneurysm repairs, cranial aneurysm repairs, delivery of drugs, delivery of biological agents, cardiac surgery with cardiopulmonary bypass circuits, cardiac surgery without cardiopulmonary bypass circuits, brain surgery, cardiograms, heart valve repair, heart valve replacement, MAZE procedures, transmyocardial revascularization, CABG procedures, beating heart surgery, vascular surgery, neurosurgery, electrophysiology procedures, diagnostic ablation of arrhythmias, therapeutic ablation of arrhythmias, endovascular procedures, treatment of injuries to the liver, treatment of the spleen, treatment of the heart, treatment of the lungs, treatment of major blood vessels, non-invasive procedures, invasive procedures, and port-access procedures.
31. A device for performing a medical procedure comprising:
 - a processor;
 - an endotracheal nerve stimulation electrode operatively connected to the processor; and
 - an esophageal cardiac stimulation electrode operatively connected to the processor, wherein the processor processes output from the nerve stimulation electrode and adjusts output from the cardiac stimulation electrode based on output from the nerve stimulation electrode.
32. The device of claim 31 further comprising:

drug delivery means for delivering at least one drug during the medical procedure.

33. The device of claim 31 wherein the drug delivery means is selected from the group consisting of:

a spray, a cream, an ointment, a medicament, a pill, a patch, a catheter, a cannula, a needle and syringe, a pump, and an iontophoretic drug delivery device.

34. The device of claim 31 wherein the cardiac stimulation electrode is arranged on an esophageal tube.

35. The device of claim 31 wherein the nerve stimulation electrode is arranged on an endotracheal tube.

36. The device of claim 31 further comprising:
a respiratory controller for controlling respiration.

37. The device of claim 31 wherein stimulation from the nerve stimulation electrode occurs in an inverse relationship to stimulation from the cardiac stimulation electrode.

38. The device of claim 31 further comprising:
a drug pump for delivering at least one drug, the drug pump operatively connected to the processor wherein the processor adjusts the output of the drug.

39. The device of claim 31 further comprising:
a respiratory controller for controlling respiration, the respiratory controller operatively connected to the processor wherein the processor adjusts the output of the respiratory controller.